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I CLAIM:

1. A motion-based apparatus comprising:  
one or more passenger units movably coupled to one or more support arms;  
5 means for driving said support arms in a generally circular path; and  
means for unloading and loading said passenger units during the driving of  
said support arms in a generally circular pattern.
2. The motion-based apparatus of claim 1 wherein the one or more passenger  
10 compartments are movably coupled to the one or more support arms by means of a  
guide member engaging the one or more support arms.
3. The motion-based apparatus of claim 1 wherein the means for driving said  
15 support arms is one or more motors.
4. The motion-based apparatus of claim 1 wherein the means for unloading and  
loading said passenger units during the driving of said support arms comprises a  
rotatable clutch integrated between the support arm and a stationary area.
- 20 5. A motion-based apparatus comprising:  
one or more passenger compartments movably coupled to one or more  
support arms;  
said support arms being attached at a first end to a rotatable member;  
said rotatable member positioned adjacent to a rotatable clutch;  
25 means for rotating said rotatable member and said rotatable clutch; and  
one or more transfer units affixed to said rotatable clutch for facilitating  
transfer of the one or more passenger compartments between the one or more  
support arms and a stationary area during apparatus operation.
- 30 6. The motion-based apparatus of claim 5 wherein said rotatable member and  
said rotatable clutch are circular in shape.
7. The motion-based apparatus of claim 6 wherein said rotatable clutch is  
35 positioned within an inner circumference of said rotatable member.
8. The motion-based apparatus of claim 5 wherein the stationary area includes

one or more stationary units for receiving said guide member.

9. The motion-based apparatus of claim 5 wherein said support arms, transfer units and stationary units each have an I-beam or t-slot cross-section.

10. The motion-based apparatus of claim 7 wherein the stationary area is located within an inner circumference of said second rotatable clutch member.

11. The motion-based apparatus of claim 5 wherein the stationary area facilitates loading and unloading of passengers into and out of the passenger compartments.

12. The motion-based apparatus of claim 5 wherein said passenger compartments are gimbaled about three axes.

13. The motion-based apparatus of claim 5 wherein the transfer of the one or more passenger compartments between the one or more support arms and the stationary area includes the steps of:

accelerating the rotatable clutch to a rotational speed generally equivalent to that of the rotatable member such that a transfer unit is aligned with a support arm and corresponding passenger compartment;

causing said guide member and corresponding passenger compartment to traverse along the support arm such that the guide member engages the transfer unit;

decelerating the rotatable clutch to a stop such that the transfer unit is aligned with a stationary unit; and

causing said guide member to traverse the transfer unit and engage the stationary unit.

14. The motion-based apparatus of claim 5 wherein the one or more passenger compartments include a video monitor.

15. The motion-based apparatus of claim 5 wherein the one or more passenger compartments include a sound system.

16. The motion-based apparatus of claim 5 wherein the one or more passenger compartments include means for scenting the compartment.

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17. The motion-based apparatus of claim 5 wherein the one or more passenger compartments include means for misting the compartment.

5 18. A motion-based system comprising:

one or more passenger units movably supported by radial tracks integrated within a circular platform;

means for rotating said circular platform; and

10 means for unloading and loading said passenger units during the driving of said circular platform.

19. The motion-based system of claim 18 wherein the one or more passenger compartments are movably supported by a wheeled base member.

15 20. The motion-based system of claim 18 wherein the means for driving said platform is one or more motors.

21. The motion-based system of claim 18 wherein the means for unloading and loading said passenger units during the driving of said support arms comprises a clutch platform integrated between the platform and a stationary area.

22. A motion-based apparatus comprising:

one or more passenger compartments supported by a first series of tracks integrated in a rotatable planar platform;

25 said platform positioned adjacent to a rotatable clutch platform having a second series of tracks; and

means for rotating said platform and said rotatable clutch platform to facilitate transfer of the passenger compartments from the platform to a stationary platform.

30 23. The motion-based apparatus of claim 22 wherein the transfer of the one or more passenger compartments between the platform and the stationary platform includes the steps of:

35 accelerating the rotatable clutch platform to a rotational speed generally equivalent to that of the platform such that a first platform track is aligned with a second clutch platform track;

causing said passenger compartment to traverse along the aligned tracks such that the passenger compartment is supported by the clutch platform;

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decelerating the rotatable clutch platform to a stop such that the clutch platform track is aligned with a stationary platform track; and

causing said passenger compartment to traverse the clutch platform track to the stationary platform track.

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24. The motion-based apparatus of claim 22 wherein said one or more passenger compartments are gimbaled about three axes.

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25. The motion-based apparatus of claim 22 wherein the one or more passenger compartments include a video monitor.

26. The motion-based apparatus of claim 22 wherein the one or more passenger compartments include a sound system.

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27. The motion-based apparatus of claim 22 wherein the one or more passenger compartments include means for scenting the compartment.

28. The motion-based apparatus of claim 22 wherein the one or more passenger compartments include means for misting the compartment

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29. A method of subjecting one or more passengers to varying forces in a system having a constant rotational velocity, comprising:

providing one or more passenger units supported by one or more radial members, said radial members positioned about a central stationary hub;

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rotating said radial members about said central hub; and

moving said one or more passenger units along said radial members such that their distance from the central hub is increased or decreased.

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30. The method of claim 29 wherein the one or more radial members are support arms.

31. The method of claim 29 wherein the radial member is a platform having a plurality of tracks.

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32. A motion-based apparatus comprising:

one or more passenger units supported by one or more members positioned radially about a central stationary hub;

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means for rotating said one or more members in a generally circular path; and  
means for moving said passenger units radially upon said members so that  
distance of the passenger unit from the central hub is changed.

5      33.    The motion-based apparatus of claim 32 wherein the one or more radial  
members are support arms.

34.    The motion-based apparatus of claim 32 wherein the radial member is a  
platform having a plurality of tracks.

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35.    A motion-based apparatus comprising:  
one or more passenger units movably coupled to one or more support arms,  
said support arms each formed of a plurality of segments such that said segments  
may be rotated about a longitudinal axis of the support arms;

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means for driving said support arms in a generally circular path; and  
means for unloading and loading said passenger units during the driving of  
said support arms in a generally circular pattern.

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36.    The motion-based apparatus of claim 35 wherein each segment supports one  
or more passenger units.

37.    The motion-based apparatus of claim 35 wherein each segment comprises an  
I-beam cross-section.

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38.    A method of subjecting one or more passengers to varying forces in a system  
having a constant rotational velocity, comprising:

providing one or more passenger units supported by one or more radial  
members, said radial members positioned about a central stationary hub, said radial  
members each formed of multiple segments rotatable about a longitudinal axis of  
said radial members;

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rotating said radial members about said central hub; and  
moving said one or more passenger units along said radial members such  
that their distance from the central hub is increased or decreased.